AUTOMOBILE and REAL ESTATE SECTION

THE WASHINGTON HERALD

Special items of intense interest to every automobilist and real estate owner.

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FRENCHMEN USING ALCOHOL-GASOLINE

Foreigners Conserve Supply by Mixing Fuel—Good Results Obtained.

It is a well-known fact that the ingenuity of the French is taxed to provide sufficient fuel to operate their large fleets of motor trucks, ambulances and airplanes. One of the results of the shortage is what appears to be a successful effort to utilize denatured alcohol. It is stated that when alcohol is used in the ratio of three parts to one of gasoline a very satisfactory mixture is obtained, one that affords flexibility and makes starting a cold engine as easy as with a gasoline mixture.

Although the alcohol-gasoline fuel does not require an increase in the oil supply, its use does necessitate that the lubrication system be carefully watched; that is, with the splash or combination splash and force feed that the maximum level be constantly maintained.

According to advices received from France, experience has demonstrated that the mixture is practical, that tests lasing for two months have indicated that the use of alcohol as a fuel removes any carbon previously existing, and that, after disassembling the engine, it was found the valves, pistons, rings and cylinders were clean and in excellent condition. It is said that part of the lubricating oil slightly enriches the mixture. Tests demonstrated the carbon-removing possibilities of carbureted alcohol, it cleansing an engine in about three hours.

Relative to a mixture of benzol and alcohol, it is said it can be made in all proportions. In utilizing it, the air may be diminished in the proportion that the alcohol is increased. Benzol is soluble in alcohol in all proportions, and one may augment or diminish the proportion of benzol according to the rise and fall of its price, in order that the price of the resulting fuel may be as low as possible. The more alcohol used, the more the benzol-alcohol mixture resembles that of the alcohol-gasoline combination previously alluded to. When the proportion of benzol is largely increased the resulting mixture takes on the characteristics obtained with gasoline.

Among the sources of fuel supply for internal combustion engines, and one that is not generally known to the average user of gasoline, is natural gas. It is interesting to note that this industry, which is one of considerable size when it is considered that it contributed something like 104,312,809 gallons of fuel in 1916, increased its production over 59 per cent, or, in other words, 38,848,144 more gallons were produced than during 1915. These amounts are indicated in the report made by John D. Northrop, of the United States Geological Survey, Department of the Interior, and show the marked expansion in the natural gas industry in the United States.

The amount produced or raw gasoline extracted from natural gas, includes that produced by the compression and absorption methods, as well as that obtained by the use of vacuum pumps and recovered as drips from gas transmission lines. The quantity of commercial gasoline represented by this output of raw casing-head product, though not susceptible of actual determination, probably was more than 200,000,000 gallons. The rising or increased cost of fuel is reflected in the prices obtained for the natural gas gasoline, the average price received in 1916 for the unblended product at the sources of production was 14 cents a gallon, and the market value of the entire output was $14,468,201, a gain of 6 cents in average unit price and of $9,257,378, or 180 per cent, in total value, compared with 1915.

To obtain the fuel above referred to required 208,800,000,000 cubic feet, and it is estimated that the average recovery of gasoline per 1,000 cubic feet by all methods in practice is about half a gallon. Other statistics of this industry are interesting. For example: There are now 534 plants engaged in this work; that is, there were that many at the end of 1916. This represents a gain of 43 per cent. The average daily capacity of all plants, combined daily capacity, has increased about 105 per cent, or from 222,336 to 454,448 gallons. From these figures it is very evident that the natural gas gasoline industry is a factor in the production of fuel for internal combustion engines.

FIRESTONE TIRES WIN RUN.

Only four riders out of fifteen starters finished 500-mile endurance run recently held by the Milwaukee Motorcycle Club. Three of the four winners, the first, second and fourth, were on Firestone tires. The event was known as a Military Endurance Run and was held as a "Preparedness" test. The riders traveled over some of the roughest roads in the State of Wisconsin, between Milwaukee and La Crosse, and took two days to make the trip.

Shrapnel Carried in Street.

A short time ago a man was haled to the Police Court for having under his arm a package containing a shrapnel, incorrectly referred to as a shrapnel shell. It is safe to assume that had passersby known the contents of the package at least one side of the street would have been shunned, while had the package dropped to the sidewalk a wild panic might readily have ensued.

As a matter of fact the package the man carried was as safe as a box of candy, for shrapnel without a fuse is harmless and the fuse is fitted to the shrapnel only on the battlefield.—From Popular Mechanics.

AUTO CLUB HOLDS ANNUAL REUNION

Falmouth, Mass., Is Mecca of Enthusiasts—Clambake Feature.

Last week all roads literally led to Falmouth, Mass., where the Sippewissett Club, the country home of the members of the International Motor Clubs Association, is located on the Eastern shore of Buzzards Bay. The occasion marked the annual gathering of the organization, and the influx started on Saturday, when the yearly ball was held, and continued over Sunday and Monday, when a clambake closed the festivities. More than 500 motorists from Pennsylvania, New York, New Jersey and New Negland were in attendance.

Teh clambake was the feature of the gathering, and so successful did it prove that it was unanimously voted to make the affair an annual event.

Col. Hawthorne, of Boston, a retired naval officer, was the toastmaster and introduced ex-Governor Walsh, of Massachusetts, as the chief speaker. After pointing out the many advantages afforded by this unique motoring organization, the former executive touchingly referred to the encroachments made by the white man on the domain of Sippewissett, the old Indian chief. The unveiling of a monument of the redskin after whom the club is named happened to be one of the events on the program, and as the former governor concluded the strings were pulled, revealing one of the venerable wooden Indians which were wont to grace the front of tobacco shops. Mr. Walsh joined heartily in the laugh which greeted the unexpected anticlimax.

Membership in the Sippewissett Club carries with it membership in the International Motor Club and the use of the club's houses in this city and New York, and in such places as they may be established. The slogan of the I. M. C. is "Motoring without annoyance," and the club aims to take care of every want of its members, including up-to-date touring information covering every part of this country and Canada, insurance, supplies and a system of legal advice and attention available without extra cost wherever the members may be touring. It also has a system of protecting owners' cars against theft and of recovering them if they are stolen.

The Sippewisset Club will be closed for the winter about October 15, and a game dinner is being planned as a fitting close to the season's activities.

Good Roads' Effect On Bank Clearings

Good roads are frequently interpreted to mean nice, smooth highways over which motor vehicles may proceed at speed without discomfort to their occupants and undue damage to the car's mechanism. There is another angle and one that is interestingly brought out by a series of exhaustive experiments conducted by the California State Automobile Association to ascertain the pull required to move a given load over various kinds of roads. This data explains to a great extent why bank clearances are affected by seasonal conditions

The experiments which were conducted under the direction of Prof. J. B. Davidson of the University of California, and Augustin B. Fletcher, State highway engineer, were made with a standard farm wagon loaded to obtain a gross weight of 6,000 pounds. The vehicle was hauled both by a two-ton truck and a pair of draft horses. It was found that a pull from 27 to 30 pounds per ton gross load was required on unsurfaced concrete roads to move the vehicle and a pull of 50 pounds when the concrete road was surfaced with screenings. War-bound macadam and bituminous concrete laid in cement increased the pull to 65 pounds, while a good gravel road required a pull of from 65 to 85 pounds. Loose gravel set up the greatest resistance.

The ordinary dirt road when muddy, as in the spring and winter, takes a pull of 218 pounds. The significance of the figures is best explained by the statement frequently made by Bradstreet that "Bank clearings are affected by usual seasonal conditions." This could be interpreted to mean affected by muddy roads, for when the highways are in bad condition, the country storekeeper does but little business. This has its bearing upon the country bank. The financial centers are affected as is the city merchant dealing with the country store. This is all due to the fact that the farmer does not like to go to the market when the roads are in bad condition, as during the seasons mentioned. As a result the farmer and his household do without the things or economize.

PRAISE FIRESTONE TIRE.

The following telegram received by the Firestone Tire and Rubber Company tells its own story:

"Elgin Six War Department road reporter and official all trails scout car arrived at Socorro, New Mexico, with original air still in two tires, after dashing over 4,150 miles of rough prairie hot desert and step rocky mountain roads where temperatures registered from 40 to 125 degees. All of our original Non-skid casings still in fine condition. They are wonders for toughness and wearing quality. Glad we used Firestone.

"ROY S. MARSH,
"Director Elgin Scout Car."

LIEUT. I. J. HENDERSON, of the United States Army, Ordnance Department, has been assigned to duties at Kenosha, Wis., where he will remain for an indefinite time. Lieut. Henderson was formerly president and general manager of the Henderson Motor Company, of Washington, D. C., and has had wide experience in handling motor cars and gas engines. He is an expert in this line. He is a native Washingtonian and received most of his education in this city.

4,242,139 CARS IN THE U. S.; DISTRICT HAS 14,525 AUTOS

One Automobile to Every Twenty-four Persons in the District of Columbia Up to July 1, Reports Show.

In the six months ended June 30, 1917, 700,401 motor vehicles were added to the 3,541,738 registered at the end of 1916. This figure is all the more remarkable when one takes into consideration the entry of the United States into the world war.

Compared with the registration figures for the first six months of 1916, the increase this year is 191,724 greater than for the first six months of last year, when the gain was 508,677. This fact is all the more significant showing, as it does, that in spite of changes wrought by the war situation, and the consequent reduction in production schedules by manufacturers, has not slowed up the motor vehicle business, as many predicted it would.

Using the latest figures of the United States Census Bureau, the present registration of motor vehicles shows that there is a motor car or truck in service for every twenty-four persons in the United States, compared with one to twenty-nine at the beginning of this year.

Another interesting point shown is that one-third of the States have registered three-fourths of the total motor vehicles in the United States. Seventy-five per cent of all the motor vehicles in this country are registered in the territory embraced between the Rocky Mountain States and Cape Cod, and north of the Ohio River with the exception of one State, California, which stands by itself. Figuring the number of cars per mile of road in the sixteen leading States, Massachusetts ranks first with 7.1. New Jersey second with 6.8, California and New York tied with 4, Ohio next with 3.4 and Illinois with 3 for the mile. Thus if registered motor vehicles were equally distributed in their respective States on country roads every mile of highway in Massachusetts would have more than seven cars, New Jersey nearly seven, California four and New York four, while Ohio would have three and four-tenths and Illinois three.

The State of Iowa leads in the ratio of cars to the population, there being one vehicle for every nine persons in the State. Nebraska is second, with one car for every ten; California third, with one for every twelve, while New York, which has the most vehicles registered of any State, has one for each thirty persons.

It must be borne in mind that the registration statistics cover all vehicles, including not only passenger cars, but motor trucks, taxicabs and buses as well. The bulk of the registration is composed of passenger cars, but it is estimated that commercial vehicles total approximately 500,000 for the entire country.

There are seven States with registrations of 200,000 or over, and eight States with registrations between 100,000 and 200,000. New York leads in registration, Ohio is second, Illinois third, Pennsylvania fourth and California fifth, Nevada is at the bottom of the list with 6,615 motor vehicles. Iowa shows the greatest individual gain, in number 70,383, and in percentage 41. Twenty-two States showed a gain for the six months of 10,000 or over.

The number of motor cars and trucks in the United States on July 1, 1917, follows:

New York	345,938
Ohio	297,738
Illinois	285,000
Pennsylvania	257,188
California	247,168
Texas	200,000
Michigan	189,000
Minnesota	168,000
Indiana	166,766
Wisconsin	142,080
Kansas	139,856
Massachusetts	132,119
Nebraska	128,142
Missouri	125,012
New Jersey	95,315
Oklahoma	72,000
Washington	68,262
Connecticut	63,345
Georgia	58,010
South Dakota	55,000
North Dakota	54,466
Colorado	54,380
Maryland	47,854
Virginia	44,559
Tennessee	42,000
Oregon	41,599
North Carolina	39,706
Kentucky	38,760
Maine	32,569
Montana	31,200
Alabama	29,193
South Carolina	28,725
Mississippi	26,046
Rhode Island	26,000
Louisiana	25,406
West Virgina	25,393
Arkansas	24,200
Idaho	17,900
New Hampshire	17,702
Utah	17,065
Arizona	16,750
Vermont	16,114
Florida	15,300
District of Columbia	14,525
New Mexico	10,965
Wyoming	9,950
Delaware	9,057
Nevada	6,615
Total	4,242,139

Care Given Tires Repays the Motorist

Many motorists are inclined to believe that all the mileage in a tire is right there in each tire when it is bought. This however, is a mistaken idea. A driver can take the mileage out of the life of his tires by careless driving or he can put more miles into a tire by giving it greater care.

"Watching for small tread cuts and curing them is one effective way in which the miles may be added to any tire," is the suggestion of the servic manager of one of the big tire companies.

"By rolling action of the tire, water and sand are sucked and pushed into the small cut, and the tread becomes loose and separated from the fabric. Jack up the wheel so you can work on the tire when it is inflated; wash it with soap and water, revolve the wheel slowly toward you, examining the tread for cuts. Upon seeing what appears to be a cut, probe it with a knife blade and remove the small particles of glass, stones or whatever may be imbedded in the rubber.

"The next step is to clean the cut thoroughly with gasoline. When you are sure all the dirt is out, work rubber cement into the cut with a small stick. Work around the tire, treating each cut in like manner. As a second coat of cement is needed, again fill the cut with cement. Open a can of tread cut filler and take out a piece a little larger than you think will fill the hole. Knead this between your thumb and forefinger, being sure that hands are clean.

"When the filler becomes plastic place it over the cut and work it in, so that it completely fills the hole. Cut off any gum that may project from the hole. Fill all cuts in a like manner and learn how to save mile-

MOTOR INDUSTRY BOOMS IN MEXICO

Government Sponsors New Company for Manufacture of Cars.

Monterey, Mex., Sept. 22.—Branch motor car and truck agencies are rapidly being established in many of the larger cities of Mexico by concerns that have their headquarters in San Antonio, El Paso and Laredo. Recently the Southern Motor Company, of El Paso, sent a representative to the City of Mexico to open a branch establishment. It soon will locate other agencies in Chihauhua, Torreon and Aguas Calientes. It is reported here. The Southern Motor Company handles the Republic trucks and the Chevrolet and Chalmers cars.

According to advices received here from Tampico, large shipments of motor trucks have arrived recently at that port by water from the United States for use in the different oil fields. In order that motor truck and car transportation in the Tampico region may be carried on successfully, modern highways are being constructed between the different towns and oil camps.

The Mexican government is standing sponsor for a company which has been organized at Monterey, capital of Nueva Leon, for the manufacture of motor cars. It is officially anounced that it is believed the effort will prove successful.

The Carranza government is giving much attention to the introduction of the motor car into the various activities of the government, and airplane mail routes also have been given special attention, and motor car travel is now possible in sections of the country where it was impossible for motor cars to go before.

Americans Form War Club.

Fifteen of the largest universities and colleges in the country, it was announced, have organized the American University Union in Europe for the purpose of establishing a headquarters or club in Paris for all university men serving in the war. It is planned to provide a home at moderate cost for college men and their friends on furlough.

The headquarters will be a sort of clearing house for the various bureaus established by the several colleges. The parents of college men will be kept in touch with them whether in the trenches or in the hospitals.

The following institutions were represented at the organization meeting: College of the City of New York, Columbia, Cornell, Dartmouth, Harvard, Johns Hopkins, New York University, Northwestern, Princeton, Tulane, Michigan, Pennsylvania, Washington, Vanderbilt, Massachusetts Institute of Technology and Yale.—New York Tribune.

Tinned salmon is needed in England.

INJECTING SPEED INTO OLD MOTOR CAR; HOW CHANGES CAN EASILY BE MADE

Engine, First Point of Attack, Must Be Carefully Handled, Not to Damage Small Parts.

The ordinary stock touring car or roadster has certain very definite virtues and certain limitations. It is built to give reasonable economy of operation, to last long under careful handling and to develop a moderate turn of speed; in short, it is adapted to what we might call general family service. This is absolutely right, for the average owner of such a vehicle desires a combination of virtues rather than a single outstanding characteristic developed at the expense of the others.

But there are certain conditions where it becomes desirable to increase the speed of a car. The old family ark may have descended to the eldest son, who desires to turn it into a speedster, fitting a snappy bucket-seated body in place of the former "carry-all." The changes may be made largely by the owner himself, though he may have to call in machinist help for certain alterations.

The engine is the first point of attack in the attempt to inject more speed into the car. As a general thing it is desirable to raise the compression. If the engine has a removable head, this part should be machined a few thousands of an inch to make the compression space smaller, or the cylinder block may be machined at the bottom to bring it down slightly. Another method is to use pistons with higher crowns, or pistons of the same type as before but with the pins just a bit lower down.

In the search for speed it is necessary to use lighter reciprocating parts than those generally fitted. Accurately fitted aluminum pistons are a great help, though cast iron ones are fair, if they are lightened by drilling. In drilling an iron piston put the hole in the skirt and not too near the piston pin. Two piston rings are enough for the construction and the clearances for aluminum pistons are twice those allowed for iron parts.

Alloy Steel Rods.

New connecting rods of tubular steel or in the form of a machined I-beam alloy of steel are advisable, though it is possible to lessen the weight of this part by drilling the one already in use, but this process weakens the rod. The crank-shaft is not usually bothered with, though it is possible to have it drilled so that oil from the main bearings will feed the connecting rod lower bearing. Unless it is purposed to run the engine for more than half an hour at maximum speed changes in the oiling system by drilling the crankshaft are not essential.

In the process of getting speed in the car the valve tuning and lift are vital and both must be altered. The general procedure is to change the valve lift 1-32 of an inch or 1-16 if there is room. This latter alteration will require a new camshaft, which is too expensive to be generally followed. In the case of a Ford which is being speeded up, a new camshaft to increase the valve lift is not particularly expensive and is recommended. It is a good plan to install larger valves than the regular service parts and to do this it is necessary to counter bore the valve seats. This is not an expensive job or the owner may do it himself if he has the tools. Using valves 1-32 of an inch larger is about all that can be done safely. The tension of the old springs may be slightly increased by stretching the springs just a little. Lightening the valve mechanism is a very real help toward speed, so it may even be advisable to remove the adjusting nuts or in the case of an overhead system, to machine the rocker arms and vertical rods, to reduce their weight.

For the ignition system to be installed on the speed car; if a standard magneto is already on board it will probably serve very well. If a good battery system is used, an extra breaker should be installed, thus taking the current from two breakers instead of one. Special racing spark plugs with cooling flanges may be purchased from any of the big makers.

No changes need be made in the cooling system, though the thermo-syphon type may not be able to absorb the heat at very high speeds.

The gear reduction in the rear axle can easily be changed, according to the ability of the engine to handle it. The general run of racing cars use less than three-to-one reductions, but there are exceptions that have done well with three and even higher to one. This change requires the installation of a new differential ring gear and driving pinion, which may usually be purchased from the makers.

The ordinary clutch may not be able to take care of the increased speed of the car. If it is a dry disc unit, increasing the number of plates and lubricating them at the same time that the spring pressure is increased by adjustment or substituting a longer spring in the same housing, will probably serve. If the clutch is of the cone type, increasing the spring pressure and installing a tight facing will turn the trick.

Beyond all this, the entire car should be lightened wherever possible without weakening the structure seriously. All needless parts should be removed from the engine, such as the lighting generator, the starting motor, etc. The frame may be lightened by drilling, cross members should be drilled away from the joints and the rear cross member of a touring car may be removed altogether. Perhaps the spring brackets may be drilled and a leaf or two may be taken out of the springs. On this lightened chassis an aluminum body of the desirable cigar shape may be installed and the "speed bug" has the desire of his heart, a real racing car, and no one need know that it was made out of father's old touring car.

CANADA INCREASES CAR PURCHASES HERE

No better indication of Western Canadian prosperity can be imagined than the statistics from the license departments of the Provinces of Manitoba, Saskatchewan, and Alberta, which show a total registration of 59,785 cars, an increase of 25,373, or 73 per cent over 1916.

Manitoba has a total of 18,976 cars, against 11,853 in 1916 and 9,250 in 1915. There are 15,201 cars owned by private parties, the remainder being owned by dealers and the trade. Chauffeurs number 1,322.

Saskatchewan has a total of 27,326, an increase of 15,503 over 1916, and comparing with 9,197 in 1915.

Alberta shows a total of 16,548, compared with 9,211 in 1916, and 5,426 in 1915. Residents of Alberta have invested about $15,000,000 in cars.

The eastern part of Canada also shows a large increase. The Province of Quebec licensed 1,112 cars up to June 1, as against 1,064 for the whole of 1916. In 1915 it had 30,112 cars, which jumped to 15,336 cars the next year. It is expected that there will be 20,000 by the end of 1917. The four-cylinder car was the most popular in 1916, there being 12,854 of them, as against 1,122 sixes, ninety-three eights, and twenty-four twelves.

Coming Events of Interest to Motorists

CONTESTS:

September 22—Chicago speedway race.
September 28—Trenton, N. J., track race.
September 29—New York speedway race, championship.
October 6—Danbury, Conn., track race.
October 6—Uniontown, Pa., speedway race, championship.
October 13—Richmond, Va., track race.
October 13—Chicago speedway race, championship.
October 27—New York speedway race.
A. A. A. championship award event.

MEETINGS.

October 9-11—Pittsburgh, Pa., National Association of Purchasing Agents, annual congress.

SHOWS.

September 17-24—Grand Rapids, Mich.
September 22-29—Chicago, Ford accessories.
October 1-6—Buffalo, N. Y., closed cars.
October 13-29—Dallas, Tex., State Fair.
November 12-18—Denver.
January 5-12—New York.
January 19-26—Montreal, Canada.

Materials for automobile construction are in demand in Spain. Correspondence should be in Spanish.